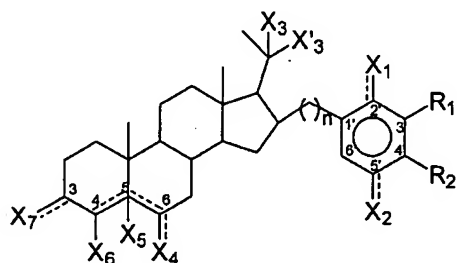


Amendments to the claims

1-3. (Cancelled)

4. (Currently amended) ~~The A compound according to claim 1 of formula I, stereoisomers, tautomers, racemics, prodrugs, metabolites thereof, or a pharmaceutically acceptable salt and/or solvate thereof,~~



formula I

wherein X<sub>1</sub>, X<sub>2</sub>, ~~are -OMe~~; R<sub>1</sub> and R<sub>2</sub> are ~~independently selected from the group consisting of hydrogen, hydroxyl, alkyl, alkoxy, oxo and oxyalkyl,~~

wherein X<sub>3</sub> participates together with X'<sub>3</sub> in an oxo functional group, or wherein X<sub>3</sub> and X'<sub>3</sub> are independently selected from the group consisting of hydrogen, hydroxyl, oxyalkyl, oxycarbonyl, glucosyl, fructosyl, galactosyl, mannosyl, ribosyl, ribulosyl, xylulosyl, erythrosyl, erythrulosyl, rhamnosyl, threosyl, sorbosyl, psicose, tagatose, fucosyl, arabinosyl, allosyl, laminaribiosyl, isomaltosyl, maltosyl, lactosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy-glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-amino-2-deoxy-mannosyl, 2-acetamido-2-deoxy-mannosyl, 2-acetamido-2-deoxy-4-O-β-D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O-β-D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminyl-lactosyl, 2-acetamido-2-deoxy-3-O-α-L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy-β-D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O-β-D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O-β-D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O-β-D-galactosyl-D-glucosyl, L or D isomers thereof, α or β form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, combination thereof, deoxy derivatives thereof, hydroxyl-protected acetate derivatives thereof, amino derivatives thereof, amido derivatives thereof, thio derivatives thereof, disaccharide thereof, trisaccharide thereof, oligosaccharide and polysaccharide thereof;

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wherein  $X_4$  and  $X_7$  are independently selected from the group consisting of hydrogen, oxygen, oxo, hydroxyl, glucosyl, fructosyl, galactosyl, mannosyl, ribosyl, ribulosyl, xylulosyl, erythrosyl, erythrulosyl, rhamnosyl, threosyl, sorbosyl, psicose, tagatosyl, fucosyl, arabinosyl, alditrosyl, laminaribiosyl, isomaltosyl, maltosyl, lactosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy-glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-amino-2-deoxy-mannosyl, 2-acetamido-2-deoxy-mannosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminylactosyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, combination thereof, deoxy derivatives thereof, hydroxyl-protected acetate or benzoyl derivatives thereof, amino derivatives thereof, amido derivatives thereof, thio derivatives thereof, disaccharide thereof, trisaccharide thereof, oligosaccharide and polysaccharide thereof;

wherein at least one of  $X_3$ ,  $X'_3$ ,  $X_4$  and  $X_7$  is a glycosyl moiety selected from the group consisting of glucosyl, fructosyl, galactosyl, mannosyl, ribosyl, ribulosyl, xylulosyl, erythrosyl, erythrulosyl, rhamnosyl, threosyl, sorbosyl, psicose, tagatosyl, fucosyl, arabinosyl, xylofuranosyl, lyxosyl, talosyl, psicose, idosyl, gulose, alditrosyl, allosyl, mannoheptulosyl, sedoheptulosyl, abequosyl, isomaltosyl, kojibiosyl, laminaribiosyl, nigerosyl, primeverosyl, rutinose, tyvelosyl, maltosyl, lactosyl, sucrose, cellobiosyl, trehalose, gentiobiosyl, melibiosyl, turanose, sophorose, isosucrose, raffinose, palatinose, lactulose, gentianose, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, isomaltotriosyl, maltopentaosyl, maltohexaosyl, maltoheptaosyl, sicosyl, panosyl, isopanosyl, inosyl, N-acetylglucosaminyl, mannotriosyl, globotriosyl, erlose, neotrehalose, chitobiosyl, chitobiosemannosyl, glucosaminyl, N-acetyl-glucosaminyl, octylglucopyranosyl, octylribofuranosyl, cyclohexylglucopyranosyl, cyclohexylxylofuranosyl, benzylglucopyranosyl, benzylarabinofuranosyl, N-acetyl-lactosaminyl, acosaminyl, amicetose, amylose, apiose, arcanose, ascarylose, bacillosaminyl, boivinosyl, cellotriosyl, chacotriosyl, chalcose, cladinosyl, colitose, cymarose, daunosaminyl, desosaminyl, D-glycero-L-gulo-heptosyl, diginose, digitalose, digitoxose, evalose, evernitrosyl, forosaminyl, fucosaminyl, garosaminyl, hamamelose, isolevoglucosenonyl, kanosaminyl, kansosaminyl, lactosaminyl, lactosediameinyl,

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fucitoyl, maltulosyl, mannosaminy, melezitoyl, mycaminosyl, mycarosyl, mycinosyl, mycosaminy, noviosyl, oleandrosyl, paratosyl, perosaminy, planteosyl, pneumosaminy, purpurosaminy, quinovosaminy, quinovosyl, rhamnitolyl, rhamnosaminy, rhodinosyl, rhodosaminy, sarmentosyl, solatriosyl, stachyosyl, streptosyl, umbelliferosyl, trehalosaminy, 1,6-anhydro-D-glucopyranosyl, 1-hydroxy- $\alpha$ -D-allopyranosyl, 2,3:5,6-di-O-isopropylidene-D-mannofuranosyl, 2-amino-2-deoxy-D-galactitolyl, 2-deoxyribosyl, 2-deoxyglucosyl, 5-amino-5-deoxy-D-glucopyranosyl, 6-deoxy-D-galactitolyl, 2-amino-2-deoxy glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-amino-2-deoxy mannosyl, 2-acetamido-2-deoxy-mannosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminyllactosyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, combination thereof, deoxy derivatives thereof, hydroxyl-protected acetate or benzoyl derivatives thereof, amino derivatives thereof, amido derivatives thereof, thio derivatives thereof, di-, tri-, oligo- and polysaccharide thereof optionally substituted by one or more substituents independently selected from the group consisting of alkyl, aralkyl, aryl, Het<sup>1</sup>, Het<sup>2</sup>, cycloalkyl, alkyloxy, alkyloxycarbonyl, carboxyl, aminocarbonyl, mono- or di(alkyl)aminocarbonyl, aminosulfonyl, alkylS(=O)<sub>t</sub>, hydroxy, cyano, halogen or amino optionally mono- or disubstituted wherein the substituents are independently selected from the group consisting of alkyl, aryl, aralkyl, aryloxy, arylamino, arylthio, aryloxyalkyl, arylaminoalkyl, aralkoxy, alkylthio, alkoxy, aryloxyalkoxy, arylaminoalkoxy, aralkylamino, aryloxyalkylamino, arylaminoalkylamino, arylthioalkoxy, arylthioalkylamino, aralkylthio, aryloxyalkylthio, arylaminoalkylthio, arylthioalkylthio, alkylamino, cycloalkyl and cycloalkylalkyl;

wherein X<sub>4</sub> or X<sub>6</sub> are hydrogen and wherein X<sub>5</sub> participates in a double bond between the carbon atoms in position 4 and 5 or in position 5 and 6, and

wherein n is an integer between 0 and 2.

5. (Currently amended) The compound according to claim 44, stereoisomers, tautomers, racemics, ~~prodrugs, metabolites~~ thereof, or a pharmaceutically acceptable salt and/or solvate thereof, wherein X<sub>1</sub> and X<sub>2</sub> are -OMe, wherein R<sub>1</sub> and R<sub>2</sub> are -H, wherein X<sub>3</sub> is selected from the group consisting of glucosyl, fructosyl, galactosyl, mannosyl, fucosyl, isomaltosyl, lactosyl,

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maltosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy-glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminylactosyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, a disaccharide or a trisaccharide thereof, wherein  $X_3$  is selected from the group consisting of hydrogen, alkyl or aralkyl, wherein  $X_4$  is hydrogen, wherein  $X_5$  participates in a double bond between the carbon atoms in position 5 and 6, wherein  $X_6$  is -H, wherein  $X_7$  is selected from the group consisting of hydrogen, oxygen, hydroxyl or oxo, and wherein n is 0.

6. (Currently amended) The compound according to claim 44, stereoisomers, tautomers, racemics, ~~prodrugs, metabolites~~ thereof, or a pharmaceutically acceptable salt and/or solvate thereof, wherein  $X_1$  and  $X_2$  are -OMe, wherein  $R_1$  and  $R_2$  are -H, wherein  $X_3$  is selected from the group consisting of hydrogen, hydroxyl, oxyalkyl or oxycarbonyl, wherein  $X'_3$  is selected from the group consisting of glucosyl, fructosyl, galactosyl, mannosyl, fucosyl, isomaltosyl, lactosyl, maltosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy-glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 2-Amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminylactosyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, a disaccharide or a trisaccharide thereof, wherein  $X_4$  is hydrogen, wherein  $X_5$  participates in a double bond between the carbon atoms in position 5 and 6, wherein  $X_6$  is -H, wherein  $X_7$  is selected from the group consisting of hydrogen, oxygen, hydroxyl or oxo, and wherein n is 0.

7. (Currently amended) The compound according to claim 44, stereoisomers, tautomers, racemics, ~~prodrugs, metabolites~~ thereof, or a pharmaceutically acceptable salt and/or solvate

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thereof, wherein  $X_1$  and  $X_2$  are  $-\text{OMe}$ , wherein  $R_1$  and  $R_2$  are  $-\text{H}$ , wherein  $X_3$  participates together with  $X'_3$  in an oxo functional group, wherein  $X_4$  is selected from the group consisting of glucosyl, fructosyl, galactosyl, mannosyl, fucosyl, isomaltosyl, maltosyl, lactosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy-glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminylactosyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, a disaccharide or a trisaccharide thereof, wherein  $X_5$  participates in a double bond between the carbon atoms in position 4 and 5, wherein  $X_6$  is  $-\text{H}$ , wherein  $X_7$  is selected from the group consisting of hydrogen, oxygen, hydroxyl, alkyloxy or oxo, and wherein  $n$  is 0.

8. (Currently amended) The compound according to claim 14, stereoisomers, tautomers, racemics, ~~prodrugs, metabolites~~ thereof, or a pharmaceutically acceptable salt and/or solvate thereof, wherein  $X_1$  and  $X_2$  are  $-\text{OMe}$ , wherein  $R_1$  and  $R_2$  are  $-\text{H}$ , wherein  $X_3$  participates together with  $X'_3$  in an oxo functional group, wherein  $X_4$  is hydrogen, wherein  $X_5$  participates in a double bond between the carbon atoms in position 5 and 6, wherein  $X_6$  is  $-\text{H}$ , wherein  $X_7$  is selected from the group consisting of glucosyl, fructosyl, galactosyl, mannosyl, fucosyl, isomaltosyl, maltosyl, lactosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminylactosyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, a disaccharide or a trisaccharide thereof; and wherein  $n$  is 0.

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9. (Currently amended) The compound according to claim 14, stereoisomers, tautomers, racemics, ~~prodrugs, metabolites~~ thereof, or a pharmaceutically acceptable salt and/or solvate thereof, wherein  $X_1$  and  $X_2$  are  $-\text{OMe}$ , wherein  $R_1$  and  $R_2$  are  $-\text{H}$ , wherein  $X_3$  or  $X'_3$  are independently selected from the group consisting of hydrogen or glucosyl, fructosyl, galactosyl, mannosyl, fucosyl, isomaltosyl, maltosyl, lactosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 2-Amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminyllactosyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3'-Fucosyl-D-Lactosyl, 3'-Fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, a disaccharide or a trisaccharide thereof, wherein  $X_4$  is selected from the group consisting of glucosyl, fructosyl, galactosyl, mannosyl, fucosyl, isomaltosyl, isomaltosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, a disaccharide or a trisaccharide thereof, wherein  $X_5$  and  $X_6$  participates in a double bond between the carbon atoms in position 4 and 5, wherein  $X_6$  is  $-\text{H}$ , wherein  $X_7$  is selected from the group consisting of hydrogen, oxygen, hydroxyl, alkyloxy or oxo, wherein at least one of  $X_3$  and  $X'_3$  is a glycosyl moiety selected from the group consisting of glucosyl, fructosyl, galactosyl, mannosyl, fucosyl, isomaltosyl, maltosyl, lactosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 2-Amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-

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acetylglucosaminyllactosyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3'-Fucosyl-D-Lactosyl, 3'-Fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, a disaccharide or a trisaccharide thereof, wherein X<sub>4</sub> is selected from the group consisting of glucosyl, fructosyl, galactosyl, mannosyl, fucosyl, isomaltosyl, isomaltosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminyllactosyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, a disaccharide or a trisaccharide thereof, glucosyl, fructosyl, galactosyl, mannosyl, ribosyl, ribulosyl, xylulosyl, erythrosyl, erythrulosyl, rhamnosyl, threosyl, sorbosyl, psicoseyl, tagatosyl, fucosyl, arabinosyl, xylofuranosyl, lyxosyl, talosyl, psicoseyl, idosyl, guloseyl, altrosyl, allosyl, mannoheptulosyl, sedoheptulosyl, abequosyl, isomaltosyl, kojibiosyl, laminaribiosyl, nigerosyl, primeverosyl, rutinosyl, tyvelosyl, maltosyl, lactosyl, sucrosyl, cellobiosyl, trehalosyl, gentiobiosyl, melibiosyl, turanosyl, sophorosyl, isosucrosyl, raffinoseyl, palatinosyl, lactulosyl, gentianoseyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, isomaltotriosyl, maltopentaosyl, maltohexaosyl, maltoheptaosyl, sicosyl, panosyl, isopanoseyl, inosyl, N-acetylgalactosaminyl, mannotriosyl, globotriosyl, erloseyl, neotrehaloseyl, chitobiosemannosyl, glucosaminyl, N-acetyl-glucosaminyl, octylglucopyranosyl, octylribofuranosyl, cyclohexylglucopyranosyl, cyclohexylxylofuranosyl, benzylglucopyranosyl, benzylarabinofuranosyl, N-acetyl-lactosaminyl, acosaminyl, amicetoseyl, amyloseyl, apioseyl, arcanoseyl, ascaryloseyl, bacillosaminyl, boivinosyl, celotriosyl, chacotriosyl, chalcoseyl, cladinosyl, celitoseyl, cymaroseyl, daunosaminyl, desosaminyl, D-glycero-L-gulo-heptoseyl, diginoseyl, digitaloseyl, digitoxoseyl, evaloseyl, evermitroseyl, foresaminyl, fucosaminyl, garosaminyl, hamameloseyl, isolevoglucosenonyl, kanosaminyl, kansosaminyl, lactosaminyl, lactosediaminyl, fucitolyl, maltulosyl, mannosaminyl, melezitoseyl, mycaminosyl, mycaroseyl, mycinosyl,

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~~mycosaminyl, noviosyl, oleandrosyl, paratosyl, perosaminyl, planteosyl, pneumosaminyl, purpurosaminyl, quinovosaminyl, quinovosyl, rhamnitolyl, rhamnosaminyl, rhodinosyl, rhodosaminyl, sarmentosyl, selatriosyl, stachyosyl, streptosyl, umbelliferosyl, trehalosaminyl, 1,6-anhydro-D-glucopyranosyl, 1-hydroxy- $\alpha$ -D-allopyranosyl, 2,3:5,6-di-O-isopropylidene-D-mannofuranosyl, 2-amino-2-deoxy-D-galactitolyl, 2-deoxyribosyl, 2-deoxyglucosyl, 5-amino-5-deoxy-D-glucopyranosyl, 6-deoxy-D-galactitolyl, 2-amino-2-deoxy-glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-amino-2-deoxy-mannosyl, 2-acetamido-2-deoxy-mannosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminyl-lactosyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O-(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, combination thereof, deoxy derivatives thereof, hydroxyl-protected acetate or benzoyl derivatives thereof, amino derivatives thereof, amido derivatives thereof, thio derivatives thereof, di, tri, oligo and polysaccharide thereof optionally substituted by one or more substituents independently selected from the group consisting of alkyl, aralkyl, aryl, Het<sup>1</sup>, Het<sup>2</sup>, cycloalkyl, alkyleoxy, alkylloxycarbonyl, carboxyl, aminocarbonyl, mono or di(alkyl)aminocarbonyl, aminosulfonyl, alkylS(=O)<sub>n</sub>, hydroxy, cyano, halogen or amino optionally mono or disubstituted wherein the substituents are independently selected from the group consisting of alkyl, aryl, aralkyl, aryloxy, arylamino, arylthio, aryloxyalkyl, arylaminoalkyl, aralkoxy, alkylthio, alkoxy, aryloxyalkoxy, arylaminoalkoxy, aralkylamino, aryloxyalkylamino, arylaminoalkylamino, arylthioalkoxy, arylthioalkylamino, aralkylthio, aryloxyalkylthio, arylaminoalkylthio, arylthioalkylthio, alkylamino, cycloalkyl and cycloalkylalkyl and wherein n is 0.~~

10. (Currently amended) The compound according to claim 1, stereoisomers, tautomers, racemics, ~~prodrugs, metabolites~~ thereof, or a pharmaceutically acceptable salt and/or solvate thereof, wherein X<sub>1</sub> and X<sub>2</sub> are -OMe, wherein R<sub>1</sub> and R<sub>2</sub> are -H, wherein X<sub>3</sub> or X'<sub>3</sub> are independently selected from the group consisting of hydrogen, glucosyl, fructosyl, galactosyl, mannosyl, fucosyl, isomaltosyl, maltosyl, lactosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy-glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-



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D-glucosyl, 2-amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminylactosyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, a disaccharide or a trisaccharide thereof, wherein  $X_4$  is hydrogen, wherein  $X_5$  and  $X_6$  participates in a double bond between the carbon atoms in position 5 and 6, wherein  $X_6$  is -H, wherein  $X_7$  is selected from the group consisting of glucosyl, fructosyl, galactosyl, mannosyl, fucosyl, isomaltosyl, maltosyl, lactosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy-glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminylactosyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, a disaccharide or a trisaccharide thereof, wherein at least one of  $X_3$  and  $X'_3$  is a glycosyl moiety selected from the group consisting of glucosyl, fructosyl, galactosyl, mannosyl, fucosyl, isomaltosyl, maltosyl, lactosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy-glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminylactosyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, a disaccharide or a trisaccharide thereof ~~glucosyl, fructosyl, galactosyl, mannosyl, ribosyl, ribulosyl, xylulosyl, erythrosyl, erythrulosyl, rhamnosyl, threosyl, sorbosyl, psicosyl, tagatosyl, fucosyl, arabinosyl, xylofuranosyl, lyxosyl, talosyl, psicosyl, idosyl, gulosyl, altrosyl, allosyl, mannoheptulosyl, sedoheptulosyl, abequosyl, isomaltosyl, kojibiosyl, laminaribiosyl, nigerosyl,~~

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~~primeverosyl, rutinosyl, tyvelosyl, maltosyl, lactosyl, sucrosyl, cellobiosyl, trehalosyl, gentiobiosyl, melibiosyl, turanosyl, sophorosyl, isosucrosyl, raffineryl, palatinosyl, lactulosyl, gentianosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, isomaltotriosyl, maltopentaosyl, maltohexaosyl, maltoheptaosyl, sicosyl, panosyl, isopanosyl, inosyl, N-acetyl-galactosaminyl, mannotriosyl, globotriosyl, erlosyl, neotrehalosyl, chitobiosyl, chitobiosemannosyl, glucosaminyl, N-acetyl-glucosaminyl, octylglucopyranosyl, octylribofuranosyl, cyclohexylglucopyranosyl, cyclohexylxylofuranosyl, benzylglucopyranosyl, benzylarabinofuranosyl, N-acetyl-lactosaminyl, acosaminyl, amicetosyl, amylosyl, apiosyl, arcanosyl, ascarylosyl, bacillosaminyl, boivinosyl, cellotriosyl, chacotriosyl, chalcosyl, cladinosyl, colitosyl, cymarosyl, daunosaminyl, desosaminyl, D-glycero-L-gulo-heptosyl, diginosyl, digitalsyl, digitoxosyl, evalosyl, evernitrosyl, forosaminyl, fucosaminyl, garosaminyl, hamamelosyl, isolevoglucosenonyl, kanosaminyl, kansosaminyl, lactosaminyl, lactosediaminyl, fucitolyl, maltulosyl, mannosaminyl, melezitotsyl, mycaminosyl, mycaresyl, mycinosyl, mycosaminyl, noviosyl, oleandrosyl, paratosyl, perosaminyl, planteosyl, pneumosaminyl, purpurosaminyl, quinevosaminyl, quinevosyl, rhamnitolyl, rhamnosaminyl, rhodinosyl, rhodosaminyl, sarmentosyl, solatriosyl, stachyosyl, streptosyl, umbelliferosyl, trehalosaminyl, 1,6-anhydro-D-glucopyranosyl, 1-hydroxy- $\alpha$ -D-allopyranosyl, 2,3:5,6-di-O-isopropylidene-D-mannofuranosyl, 2-amino-2-deoxy-D-galactitolyl, 2-deoxyribosyl, 2-deoxyglucosyl, 5-amino-5-deoxy-D-glucopyranosyl, 6-deoxy-D-galactitolyl, 2-amino-2-deoxy-glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-amino-2-deoxy-mannosyl, 2-acetamido-2-deoxy-mannosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminyl-lactosyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O-(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, combination thereof, deoxy derivatives thereof, hydroxyl-protected acetate or benzoyl derivatives thereof, amino derivatives thereof, amido derivatives thereof, thio derivatives thereof, di-, tri-, oligo- and polysaccharide thereof optionally substituted by one or more substituents independently selected from the group consisting of alkyl, aralkyl, aryl, Het<sup>1</sup>, Het<sup>2</sup>, cycloalkyl, alkylloxy, alkylloxycarbonyl, carboxyl, aminocarbonyl, mono- or di(alkyl)aminocarbonyl, aminosulfonyl, alkylS(=O)<sub>t</sub>, hydroxy, cyano, halogen or amino optionally mono- or disubstituted wherein the substituents are independently selected from the group consisting of alkyl, aryl, aralkyl, arylloxy, arylamino, arylthio,~~

~~aryloxyalkyl, arylaminoalkyl, aralkoxy, alkylthio, alkoxy, aryloxyalkoxy, arylaminoalkoxy, aralkylamino, aryloxyalkylamino, arylaminoalkylamino, arylthioalkoxy, arylthioalkylamino, aralkylthio, aryloxyalkylthio, arylaminoalkylthio, arylthioalkylthio, alkylamino, cycloalkyl and cycloalkylalkyl and wherein n is 0.~~

11. (Currently amended) The compound according to claim 44, stereoisomers, tautomers, racemics, ~~prodrugs, metabolites thereof, or a pharmaceutically acceptable salt and/or solvate thereof,~~ wherein  $X_1$  and  $X_2$  are  $-OMe$ , wherein  $R_1$  and  $R_2$  are  $-H$ , wherein  $X_3$  participates together with  $X'_3$  in an oxo functional group or are independently selected from the group consisting of hydrogen, hydroxyl, alkyl, alkoxy, wherein  $X_4$  is selected from the group consisting of glucosyl, fructosyl, galactosyl, mannosyl, fucosyl, isomaltosyl, maltosyl, lactosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy-glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminyl lactosyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, a disaccharide or a trisaccharide thereof, wherein  $X_5$  and  $X_6$  participates in a double bond between the carbon atoms in position 4 and 5, wherein  $X_6$  is  $-H$ , wherein  $X_7$  is selected from the group consisting of glucosyl, fructosyl, galactosyl, mannosyl, fucosyl, isomaltosyl, maltosyl, lactosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminyl lactosyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, a disaccharide or a trisaccharide thereof, and wherein n is 0.

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12. (Currently amended) The compound according to claim 44, stereoisomers, tautomers, racemicals, ~~prodrugs, metabolites~~ thereof, or a pharmaceutically acceptable salt and/or solvate thereof, wherein  $X_1$  and  $X_2$  are  $-OMe$ , wherein  $R_1$  and  $R_2$  are  $-H$ , wherein  $X_3$  or  $X'_3$  are independently selected from the group consisting of hydrogen, glucosyl, fructosyl, galactosyl, mannosyl, fucosyl, isomaltosyl, maltosyl, lactosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy-glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-acetamido-2-deoxy-4-O-b-D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O-b-D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminyl lactosyl, 2-acetamido-2-deoxy-3-O-a-L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy-b-D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O-b-D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O-b-D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O-b-D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, a disaccharide or a trisaccharide thereof, wherein  $X_4$  is selected from the group consisting of glucosyl, fructosyl, galactosyl, mannosyl, fucosyl, isomaltosyl, maltosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy-glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-acetamido-2-deoxy-4-O-b-D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O-b-D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminyl lactosyl, 2-acetamido-2-deoxy-3-O-a-L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy-b-D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O-b-D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O-b-D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O-b-D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, a disaccharide or a trisaccharide thereof, wherein  $X_5$  and  $X_6$  participates in a double bond between the carbon atoms in position 4 and 5, wherein  $X_6$  is  $-H$ , wherein  $X_7$  is selected from the group consisting of glucosyl, fructosyl, galactosyl, mannosyl, fucosyl, isomaltosyl, maltosyl, lactosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-acetamido-2-deoxy-4-O-b-D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O-b-D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminyl lactosyl, 2-acetamido-2-deoxy-3-O-a-L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy-b-D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O-b-D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O-b-D-glucosyl-D-galactosyl, 3-

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fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O-b-D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, a disaccharide or a trisaccharide thereof, wherein at least one of  $X_3$  and  $X'_3$  is a glycosyl moiety selected from the group consisting of glucosyl, fructosyl, galactosyl, mannosyl, fucosyl, isomaltosyl, maltosyl, lactosyl, cellobiosyl, gentiobiosyl, melibiosyl, palatinosyl, lactulosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, 2-amino-2-deoxy-glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-acetamido-2-deoxy-4-O-b-D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O-b-D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminyl, 2-acetamido-2-deoxy-3-O-a-L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy-b-D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O-b-D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O-b-D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O-b-D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, a disaccharide or a trisaccharide thereof~~glucosyl, fructosyl, galactosyl, mannosyl, ribosyl, ribulosyl, xylulosyl, erythrosyl, erythrulosyl, rhamnosyl, threosyl, sorbosyl, psicoseyl, tagatosyl, fucosyl, arabinosyl, xylofuranosyl, lyxosyl, talosyl, psicoseyl, idosyl, gulosyl, altrosyl, allosyl, mannoheptulosyl, sedoheptulosyl, abequosyl, isomaltosyl, kojibiosyl, laminaribiosyl, nigerosyl, primeverosyl, rutinosyl, tyvelosyl, maltosyl, lactosyl, sucrosyl, cellobiosyl, trehalosyl, gentiobiosyl, melibiosyl, turanosyl, sophorosyl, isosucrosyl, raffinoseyl, palatinosyl, lactulosyl, gentianosyl, 3-mannobiosyl, 6-mannobiosyl, 3-galactobiosyl, 4-galactobiosyl, maltotriosyl, maltotetraosyl, isomaltotriosyl, maltopentaosyl, maltohexaosyl, maltoheptaosyl, sicosyl, panosyl, isopanoseyl, inosyl, N-acetylgalactosaminyl, mannotriosyl, globotriosyl, erlosyl, neotrehalosyl, chitobiosyl, chitobiosemannosyl, glucosaminyl, N-acetyl-glucosaminyl, octylglucopyranosyl, octylribofuranosyl, cyclohexylglucopyranosyl, cyclohexylxylofuranosyl, benzylglucopyranosyl, benzylarabinofuranosyl, N-acetyl-lactosaminyl, acosaminyl, amicitosyl, amylosyl, apiosyl, arcanosyl, ascarylosyl, bacillosaminyl, boivinosyl, cellotriosyl, chacotriosyl, chalcosyl, cladinosyl, colitosyl, cymarosyl, daunosaminyl, desosaminyl, D-glycero-L-gulo-heptosyl, diginosyl, digitalosyl, digitoxosyl, evalosyl, evernitrosyl, foresaminyl, fucosaminyl, garosaminyl, hamamelosyl, isolevoglucosenonyl, kanosaminyl, kansosaminyl, lactosaminyl, lactosediaminyl, fucitoyl, maltulosyl, mannosaminyl, melezitoyl, mycaminosyl, mycarosyl, mycinosyl, mycosaminyl, noviosyl, oleandrosyl, paratosyl, perosaminyl, planteosyl, pneumosaminyl, purpurosaminyl, quinovosaminyl, quinovosyl, rhamnitolyl, rhamnosaminyl, rhodinosyl, rhodosaminyl, sarmentosyl, celatriosyl, stachyosyl, streptosyl, umbelliferosyl, trehalosaminyl,~~

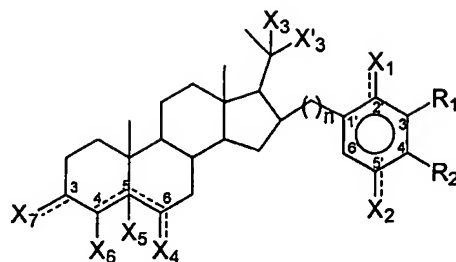
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~~1,6-anhydro-D-glucopyranosyl, 1-hydroxy- $\alpha$ -D-allopyranosyl, 2,3:5,6-di-O-isopropylidene-D-mannofuranosyl, 2-amino-2-deoxy-D-galactitolyl, 2-deoxyribosyl, 2-deoxyglucosyl, 5-amino-5-deoxy-D-glucopyranosyl, 6-deoxy-D-galactitolyl, 2-amino-2-deoxy-glucosyl, 2-acetamido-2-deoxy-glucosyl, 2-amino-2-deoxy-galactosyl, 2-acetamido-2-deoxy-galactosyl, 2-amino-2-deoxy-mannosyl, 2-acetamido-2-deoxy-mannosyl, 2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 2-amino-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, 6'-N-acetylglucosaminylactosyl, 2-acetamido-2-deoxy-3-O- $\alpha$ -L-fucosyl-D-glucosyl, 6-O(2-acetamido-2-deoxy- $\beta$ -D-glucosyl)-D-galactosyl, 2-acetamido-2-deoxy-3-O- $\beta$ -D-galactosyl-D-glucosyl, 2'-acetamido-2'-deoxy-3-O- $\beta$ -D-glucosyl-D-galactosyl, 3-fucosyl-D-lactosyl, 3-fucosyl-2-acetamido-2-deoxy-4-O- $\beta$ -D-galactosyl-D-glucosyl, L or D isomers thereof,  $\alpha$  or  $\beta$  form thereof, pyranuronic or furanuronic form thereof, pyranose or furanose form thereof, combination thereof, deoxy derivatives thereof, hydroxyl-protected acetate or benzoyl derivatives thereof, amino derivatives thereof, amide derivatives thereof, thio derivatives thereof, di, tri, oligo and polysaccharide thereof optionally substituted by one or more substituents independently selected from the group consisting of alkyl, aralkyl, aryl, Het<sup>1</sup>, Het<sup>2</sup>, cycloalkyl, alkyloxy, alkyloxycarbonyl, carboxyl, aminocarbonyl, mono or di(alkyl)aminocarbonyl, aminesulfonyl, alkylS(=O)<sub>t</sub>, hydroxy, cyano, halogen or amino optionally mono or disubstituted wherein the substituents are independently selected from the group consisting of alkyl, aryl, aralkyl, aryloxy, arylamino, arylthio, aryloxyalkyl, arylaminoalkyl, aralkoxy, alkylthio, alkoxy, aryloxyalkoxy, arylaminoalkoxy, aralkylamino, aryloxyalkylamino, arylaminoalkylamino, arylthioalkoxy, arylthioalkylamino, aralkylthio, aryloxyalkylthio, arylaminoalkylthio, arylthioalkylthio, alkylamino, cycloalkyl and cycloalkylalkyl and wherein n is 0.~~

13. (Currently amended) A compound of formula I, stereoisomers, tautomers, racemics, prodrugs, metabolites thereof, or a pharmaceutically acceptable salt and/or solvate thereof, wherein X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, X'<sub>3</sub>, X<sub>4</sub>, X<sub>5</sub>, X<sub>6</sub>, X<sub>7</sub>, R<sub>1</sub>, R<sub>2</sub> and n are selected as indicated in Table A.

14. (Currently amended) A method for synthesizing a compound comprising of the structural formula I

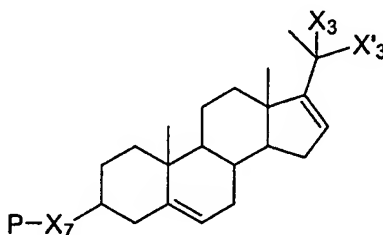
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formula I

wherein  $X_1$ ,  $X_2$ ,  $X_3$ ,  $X_4$ ,  $X_5$ ,  $X_6$ ,  $X_7$ ,  $R_1$ ,  $R_2$  and  $n$  are independently selected from the group as indicated in claim 44, said method comprising the steps of

- a) providing a starting material comprising of the structural formula IV,



formula IV

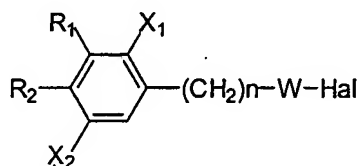
wherein  $X_3$  participates together with  $X'_3$  in an oxo functional group, or wherein  $X_3$  and  $X'_3$  are independently selected from the group consisting of hydrogen, hydroxyl, sulfur, oxyalkyl, oxycarbonyl, alkyl, Het<sup>1</sup>alkyl, alkyloxycarbonyl, alkenyl, alkynyl, aminoalkyl, aminoacyl, alkylcarbonylamino, alkylthiocarbonylamino, Het<sup>1</sup>, optionally substituted by one or more substituents independently selected from the group consisting of alkyl, aralkyl, aryl, Het<sup>1</sup>, Het<sup>2</sup>, cycloalkyl, alkyloxy, alkyloxycarbonyl, carboxyl, aminocarbonyl, mono- or di(alkyl)aminocarbonyl, aminosulfonyl, alkylS(=O)<sub>t</sub>, hydroxy, cyano, halogen or amino optionally mono- or disubstituted wherein the substituents are independently selected from the group consisting of alkyl, aryl, aralkyl, aryloxy, arylamino, arylthio, aryloxyalkyl, arylaminoalkyl, aralkoxy, alkylthio, alkoxy, aryloxyalkoxy, arylaminoalkoxy, aralkylamino, aryloxyalkylamino, arylaminoalkylamino, arylthioalkoxy, arylthioalkylamino, aralkylthio, aryloxyalkylthio, arylaminoalkylthio, arylthioalkylthio, alkylamino, cycloalkyl and cycloalkylalkyl;

wherein  $X_7$  is selected from the group consisting of hydrogen, oxygen, halogen, oxo, carbonyl, thiocarbonyl, hydroxyl, alkyl, aryl, Het<sup>1</sup>, Het<sup>1</sup>alkyl, Het<sup>1</sup>aryl, alkenyl, alkynyl, hydroxyalkyl, hydroxycarbonyl, hydroxycarbonylalkyl, hydroxycarbonylaryl, hydroxycarbonyloxyalkyl optionally substituted by one or more substituents independently

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selected from the group consisting of alkyl, aralkyl, aryl, Het<sup>1</sup>, Het<sup>2</sup>, cycloalkyl, alkyloxy, alkyloxycarbonyl, carboxyl, aminocarbonyl, mono- or di(alkyl)aminocarbonyl, aminosulfonyl, alkylS(=O)<sub>t</sub>, hydroxy, cyano, halogen or amino optionally mono- or disubstituted wherein the substituents are independently selected from the group consisting of alkyl, aryl, aralkyl, aryloxy, arylamino, arylthio, aryloxyalkyl, arylaminoalkyl, aralkoxy, alkylthio, alkoxy, aryloxyalkoxy, arylaminoalkoxy, aralkylamino, aryloxyalkylamino, arylaminoalkylamino, arylthioalkoxy, arylthioalkylamino, aralkylthio, aryloxyalkylthio, arylaminoalkylthio, arylthioalkylthio, alkylamino, cycloalkyl and cycloalkylalkyl; and wherein P is a protecting group,

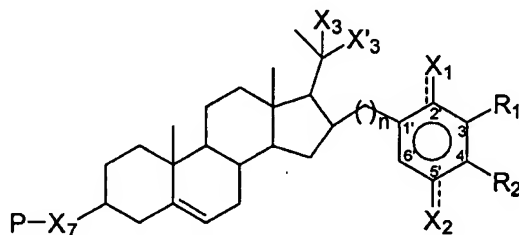
b) effecting reaction between the compound of step a) with an organometallic compound ~~comprising the of~~ structural formula V



formula V

wherein X<sub>1</sub>, X<sub>2</sub>, R<sub>1</sub>, R<sub>2</sub> and n are independently selected from the group as indicated in claim 14, wherein W is a metal or a combination of metals and wherein Hal is a halogen atom,

to result in an intermediate ~~comprising the of~~ structural formula III'

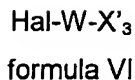


formula III'

wherein X<sub>1</sub>, X<sub>2</sub>, R<sub>1</sub>, R<sub>2</sub> and n are independently selected from the group as indicated in ~~any of claims 1 to 13~~ 4, wherein X<sub>3</sub>, X'<sub>3</sub>, X<sub>7</sub> are independently selected from the group as indicated in step a) and wherein P is a protecting group,

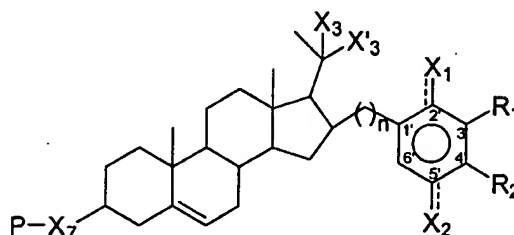
c) effecting reaction between the compound of step b) with an organometallic compound ~~comprising of the~~ structural formula VI





wherein X'<sub>3</sub> is selected from the group as indicated in step a), wherein W is a metal or a combination of metals, and wherein Hal is a halogen atom,

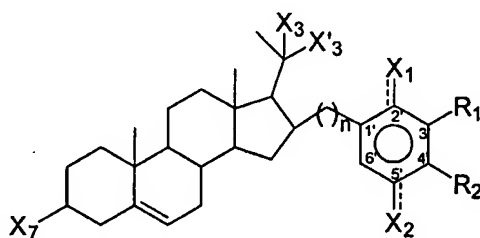
to result in an intermediate comprising the of structural formula III



formula III

wherein X<sub>1</sub>, X<sub>2</sub>, R<sub>1</sub>, R<sub>2</sub> and n are independently selected from the group as indicated in claim 44, wherein X<sub>3</sub>, X'<sub>3</sub>, X<sub>7</sub> are independently selected from the group as indicated in step a), wherein P is a protecting group,

- d) deprotecting the X<sub>7</sub> group of the compound obtained in step c) to form an compound comprising the of structural formula II



formula II

wherein X<sub>1</sub>, X<sub>2</sub>, R<sub>1</sub>, R<sub>2</sub> and n are independently selected from the group as indicated in claim 44, wherein X<sub>3</sub>, X'<sub>3</sub>, X<sub>7</sub> are independently selected from the group as indicated in step a), and

- e) coupling an O-protected glycosyl or non-protected glycosyl to form a compound of formula IIB wherein X<sub>1</sub>, X<sub>2</sub>, R<sub>1</sub>, R<sub>2</sub> and n are independently selected from the group as indicated in claim 44, wherein X<sub>3</sub> and X'<sub>3</sub> are independently selected from the group as indicated in step a), and X<sub>7</sub> is an O-protected glycosyl or a non-protected glycosyl, and

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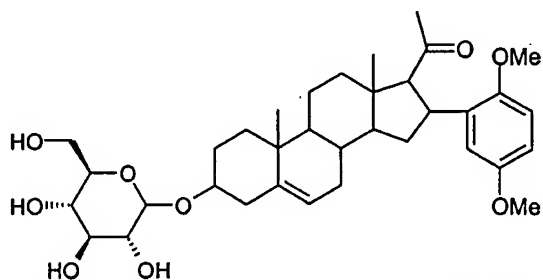
f) deprotecting the O-protected groups of glycosyl to form a compound of formula IB wherein  $X_1$ ,  $X_2$ ,  $X_4$ ,  $X_5$ ,  $X_6$ ,  $R_1$ ,  $R_2$  and  $n$  are independently selected from the group as indicated in claim 44, wherein  $X_3$ ,  $X'_3$  are independently selected from the group as indicated in step a), and  $X_7$  is selected from the group consisting of glycosyl, thio derivatives thereof, amino derivatives thereof, amido derivatives thereof, hydroxyl-protected derivatives thereof.

15.(Previously presented) The method according to claim 14, wherein step e) consists of reacting the compound of step d) with an oxidizing reagent to form an intermediate and reducing said intermediate with a reducing reagent to result in another intermediate comprising the structural formula I.

16. (Previously presented) The method according to claim 14, wherein step c) consists of reacting the compound of step b) with an O-protected glycosyl or non-protected glycosyl to result in an intermediate comprising the structural formula III.

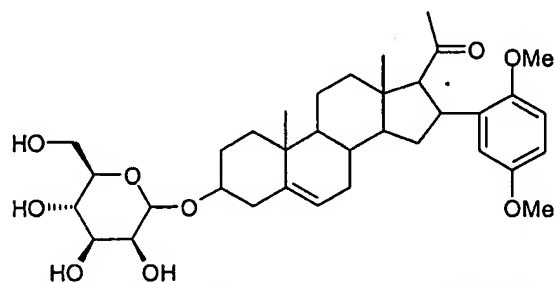
17. (Cancelled)

18. (Currently amended) The compound according to claim 44, of structural formula:



herein designated as compound **UBS3268**

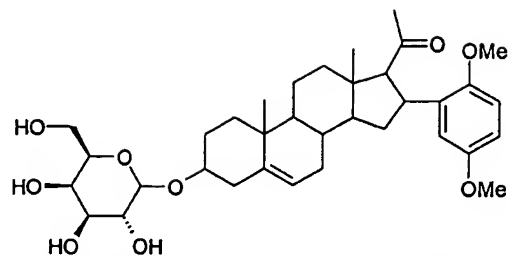
19. (Currently amended) The compound according to claim 44, of structural formula:



herein designated as compound **UBS3270**

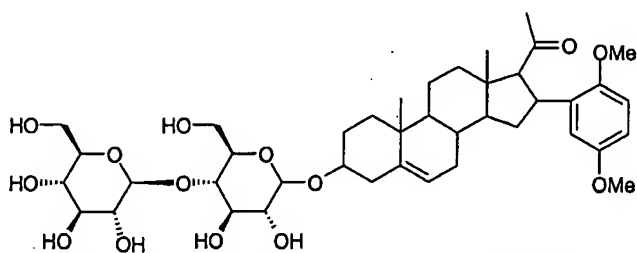
20. (Currently amended) The compound according to claim 44, of structural formula:

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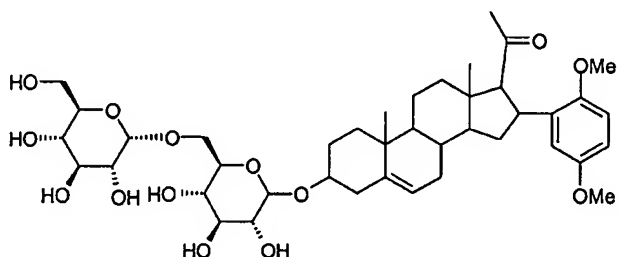
herein designated as compound **UBS3285**

21. (Currently amended) The compound according to claim 44, of structural formula:



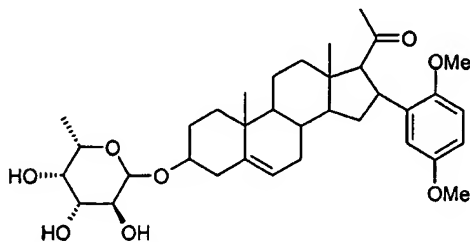
herein designated as compound **UBS3327**

22. (Currently amended) The compound according to claim 44, of structural formula:



herein designated as compound **UBS3328**

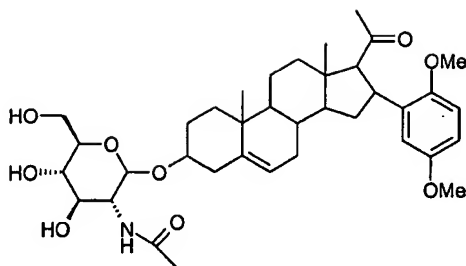
23. (Currently amended) The compound according to claim 44, of structural formula:



herein designated as compound **UBS3501**

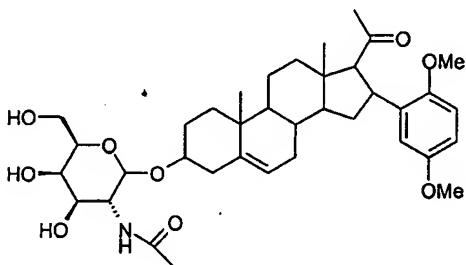
24. (Currently amended) The compound according to claim 44, of structural formula:

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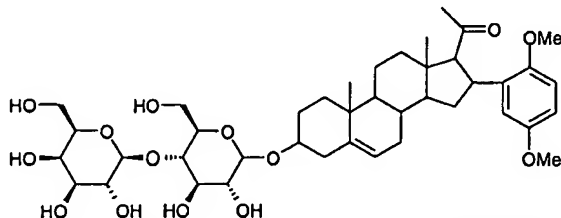
herein designated as compound **UBS3585**

25. (Currently amended) The compound according to claim 44, of structural formula:



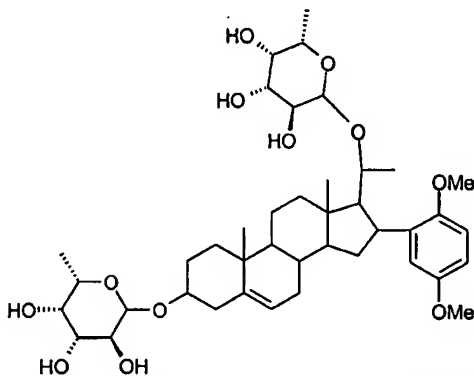
herein designated as compound **UBS3597**

26. (Currently amended) The compound according to claim 44, of structural formula:



herein designated as compound **UBS3976**

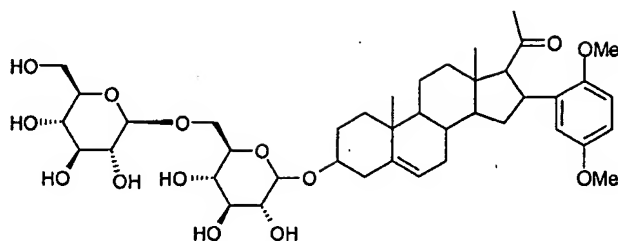
27. (Currently amended) The compound according to claim 44, of structural formula:



herein designated as compound **UBS4066**

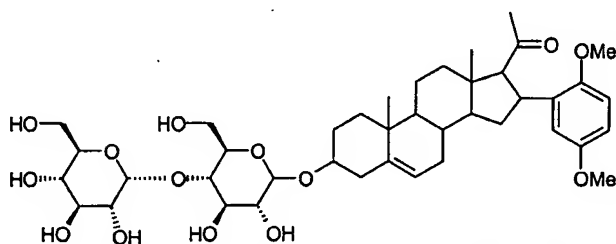
28. (Currently amended) The compound according to claim 44, of structural formula:

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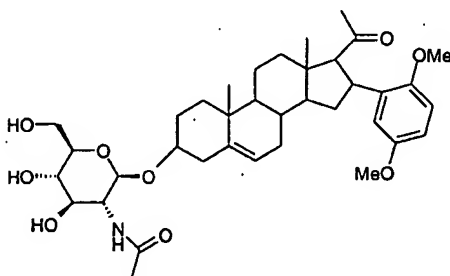
herein designated as compound **UBS4067**

29. (Currently amended) The compound according to claim 44, of structural formula:



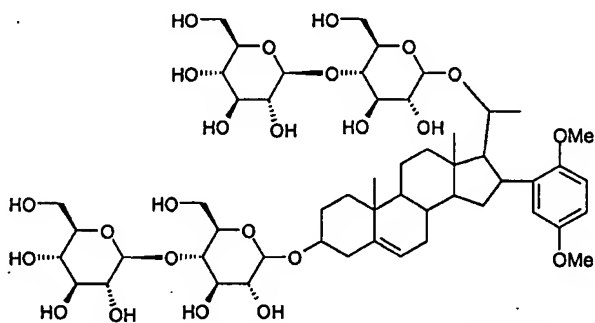
herein designated as compound **UBS4095**

30. (Currently amended) The compound according to claim 44, of structural formula:



herein designated as compound **UBS4104**

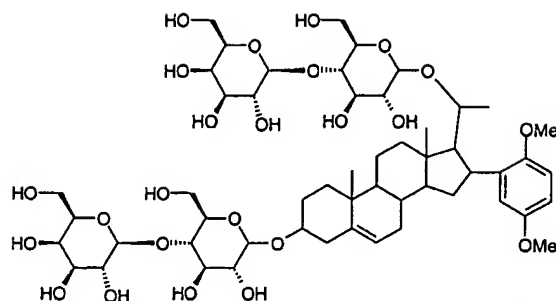
31. (Currently amended) The compound according to claim 44, of structural formula:



herein designated as compound **UBS4109**

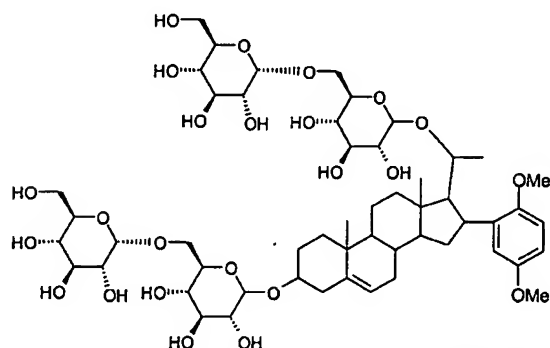
32. (Currently amended) The compound according to claim 44, of structural formula:

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herein designated as compound **UBS4209**

33. (Currently amended) The compound according to claim 44, of structural formula:



herein designated as compound **UBS4373**

34. (Cancelled)

35. (Cancelled)

36. (Currently amended) A method for treating cancer which comprises administering a compound according to claim 44 to an individual in need thereof.

37. (Currently amended) A pharmaceutical composition comprising a pharmaceutically acceptable excipient and a therapeutically effective amount of a compound according to claim 44.

38. (Cancelled)

39. (Previously presented) A method of treating cancer comprising administering to an individual in need of such treatment a pharmaceutical composition according to claim 37.